

WHAT IS CLAIMED IS:

1. A native vegetable protein product which is highly soluble in water and forms a gel with mild heat treatment.
2. The native protein product according to claim 1, wherein the product is derived from soy; is low in viscosity; is highly soluble in water; and forms a gel with mild heat treatment which is not diminished when salt is added.
3. The native protein product according to claim 1, which forms a gel at a temperature of between about 60° C and about 105° C.
4. The native protein product according to claim 1, which forms a gel at a temperature of between about 70° C and about 90° C.
5. The native protein product according to claim 1, wherein the nitrogen solubility index is between about 50% and about 100%.
6. The native protein product according to claim 1, wherein the nitrogen solubility index is between about 70% and about 100%.
7. The native protein product according to claim 1, wherein the nitrogen solubility index is about 90%.
8. The native protein product according to claim 1, wherein the soluble sugar content is between about 6% and about 20%.
9. The native protein product according to claim 1, wherein the protein content is between about 60% and about 85% of dry solids.
10. The native protein product according to claim 1, wherein the protein content is between about 65% and about 82% of dry solids.
11. The native protein product according to claim 1, wherein the viscosity of a 10% dispersion is less than about 50 centipoise.
12. The native protein product according to claim 1, wherein the viscosity of a 10% dispersion is less than about 30 centipoise.
13. A process for obtaining a vegetable native protein product which is highly soluble and forms a gel upon mild heat treatment, comprising the steps of:
  - dispersing a protein material in water around neutral pH to pH 8.3;
  - extracting the dispersion;
  - removing the insoluble fraction;
  - lowering the pH of the supernatant fraction to between about 7.5 and about 5.0;

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neutralizing;  
treating the product;  
cooling; and  
spray drying.

14. The process according to claim 13, wherein the protein material is soy flakes.

15. The process according to claim 14, comprising the steps of:

dispersing soy white flakes with high PDI in water about neutral pH to pH 8.0;  
extracting for approximately 30 min. at 30° C;  
centrifuging the dispersion to remove the insoluble fraction;  
lowering the pH of the supernatant fraction to 5.0 for 10 min.;  
neutralizing;  
treating in a jet cooker at 140° C for 3 sec.;  
flash cooling to 60° C; and  
spray drying.

16 The process for obtaining a soy native protein product according to claim 13, comprising the steps of:

dispersing soy white flakes with high PDI (85% or higher) a solids content of approximately 12% (w/w) at about neutral pH to about pH 8.5, preferably about neutral pH to about pH 8.0, in water;

extracting for approximately 30 min at 30° C;

centrifuging in order to remove the insoluble fraction, leaving only about 0.5% sedimentable material in the supernatant fraction;

lowering the pH to 5.0 for 10 min. with HCl and neutralizing with NaOH;

heat treating the supernatant in a jet cooker at 140° C for 3 sec.;

flash cooling to 60° C; and

spray drying.

17. A meat brine comprising between about 1% and about 20% of the native protein product of claim 1.

18. A meat piece injected with the brine of claim 17 at extension levels from about 2% to about 100%.

19. A vegetarian meat analog product comprising between about 1% and about 20% of the native protein product of claim 13.

20. A vegetarian emulsion meat analog product comprising between about 1% and about 20% of the native protein content of claim 13, wherein said product is an emulsion which includes fat therein.

21. The vegetarian emulsion meat analog product of claim 20, wherein said product is an emulsion comprising between about 1% and about 10% fat.

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